

3 June 1985

### Special Publication System

#### ANG FORMAL OPERATIONS TRAINING PUBLICATIONS AND RELATED DOCUMENTS

This regulation establishes a command specialized publications system, in accordance with AFR 5-1, for issue of ANG formal operations training publications in formal aircrew training courses and authorizes printing and duplication of documents. It provides standardized format for syllabi and applies to all persons who prepare, manage, review, approve, or use ANG formal operations training publications and related documents.

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## CHAPTER 1

## ANG FORMAL OPERATIONS TRAINING SYLLABI

## Section A--General

**1-1. Purpose and Intended Users:** ANG formal training syllabi are specialized publications authorized for issue by NGB/XO, under authority stated in AFR 5-1.

a. A syllabus outlines a course of instruction and is a directive. An ANG formal training syllabus prescribes the overall training strategy and the approximate amount of instruction necessary for a student having the entry prerequisites to achieve the syllabus goals and to develop the proficiency in specified course objectives required for graduation.

b. Syllabi are used by training managers at all levels as a reference for conducting courses. Instructors and students use a syllabus as a source document to determine specific training guidance, objectives, and content. Syllabi are also used by HQ staff agencies to plan, program, and budget for manpower, monies, and materials.

c. Units tasked to implement formal training syllabi are responsible to ensure that each graduate possesses the skills, knowledge, and levels of proficiency set forth in the course objectives or training standards. The level of instruction and amount of training devoted to elements, events, subjects, or modules should be adjusted to meet the needs of individual students within constraints set forth by the syllabus and other applicable directives.

**1-2. Approval Authority:** Authority for approval of ANG formal operations training syllabi is NGB/XO.

**1-3. Office of Primary Responsibility (OPR):** The OPR for an ANG formal training syllabus is the unit that manages the training program for the weapons system that the syllabus supports.

**1-4. Office of Primary Development Responsibility (OPDR):** The OPDR for an ANG formal training syllabus is the office

within the OPR unit which actually develops the syllabus. This responsibility is normally delegated to an operations training development (OTD) team. The team uses instructional systems development (ISD) or locally developed procedures to prepare, test, and validate the syllabus.

**1-5. Format and Numbering:** Format and content guidance for ANG formal training syllabi is in attachment 1. Syllabi will be numbered on the cover page with the course number(s) they contain. Course numbers will be supplied by NGB/TE, and course prerequisites will be forwarded by the training unit for inclusion in AFR 25-5.

## Section B--Development, Coordination, and Approval

**1-6. Development:** A syllabus is prepared for each formal flying training course conducted by the ANG.

a. For each new or revised course, the OPR will furnish the OPDR with updated information pertinent to syllabus development. This includes desired capability/status of graduates, limiting factors, desired date for draft versions, and desired implementation dates. The OPDR will then develop the syllabus using these criteria.

b. Terminology should be standard in training documents of similar weapons systems. Fighter-type training will use the following phases and mission types; specialized training not listed remains unchanged and is found in TACM 51-50 and TACR 55-79.

(1) Conversion Phase.

(a) Transition (TR).

(b) Instruments (I).

(c) Formation (F).

(2) Air-to-Surface Phase.

(a) Surface Attack (SA).

(b) Surface Attack Tactics

(SAT).

(3) Air-to-Air Phase.

(a) Aircraft Handling Characteristics (AHC).

- (b) Basic Fighter Maneuvers (BFM).
- (c) Air Combat Maneuvers (ACM).
- (d) Air Combat Tactics (ACT).
- (e) Air Combat Training (ACBT).
- (f) Defensive Combat Tactics (DCT).
- (g) Dissimilar (D).
- (h) Low Altitude Air-to-Air Training (LOWAT).
- (4) Air Intercept Phase.
- (5) Air Refueling Phase (AR).
- (6) Low Level Nav Phase.
- (a) Visual Low Level Navigation (VLLN).
- (b) Radar Low Level navigation (RLLN).
- (7) Low Altitude Training Phase (LAT).
- (8) Reconnaissance Phase.
- (a) Day Visual Reconnaissance (DR).
- (b) Day Radar Reconnaissance (simulated night--SN).
- (c) Night Reconnaissance (NR).

c. The distribution page of all syllabi will be prepared using the format in attachment 2. Recipients will be listed in the following order: All ANG units alphabetically by base name, then any other commands alphabetically by name. (Copies will be sent to NGB offices shown.)

**1-7. Coordination:** For new or revised syllabi, the coordination procedures will be initiated by the OPR who will forward six draft copies to NGB/XO.

a. All drafts will be conspicuously marked "DRAFT" on the cover page and will not include an official seal on the letter of introduction page. The forwarding cover letter format is shown in attachment 3 and will include:

- (1) Background (a brief history of the syllabus since inception).
- (2) Proposed changes (summary of old vs new revisions).
- (3) Shortfalls which required the requested changes.
- (4) Discussion of how the proposed changes fix the problem.

(5) Any other concerns which may affect current or future syllabi.

(6) Summary.

b. The OPR will forward copies to other affected agencies with suspenses for their reply. The OPR will then review comments and suggested changes and direct the OPDR to prepare the final copy for print.

c. The OPR obtains final approval from NGB/XO and prints the syllabus in required copies.

**1-8. Approval of syllabi:** Normally a briefing by the OPR is not required for approval, but should be considered for new syllabi or extensive revisions. The approving officer will sign.

### Section C--Administrative Practices

**1-9. Currency:** Individual users are responsible for maintaining currency of their syllabi. Revisions or changes will automatically be sent to those agencies on the distribution list. All users may validate the currency of their syllabi by contacting the OPR.

**1-10. Record Sets and Historical Files:** The OPR will maintain a historical file of obsolete syllabi for each course for a period of at least 2 years.

**1-11. Review Requirements:** Unrevised syllabi will be reviewed by the OPR at least annually for currency.

**1-12. Changes:** Syllabus revisions are prepared per attachment 3 and coordinated per paragraph 1-7 to preserve stability in training courses. The OPR will coordinate and gain approval for all revisions.

**1-13. Minor Changes:** Minor revisions and administrative changes do not require approval of NGB/XO. They will be published and distributed with a cover letter of explanation to all users.

**1-14. Deadlines:** Requests for syllabus changes will be forwarded to arrive at NGB/XO no later than 30 days prior to the planned implementation date.

## Chapter 2

### SYLLABUS RELATED DOCUMENTS

**2-1. Introduction:** Although not designated as specialized publications, there are several types of printed or reproduced documents related to syllabi. These documents support ANG formal operations training courses and may be used by operational units as reference materials or as directed by other ANG/TAC publications. This chapter provides management guidance for these syllabus-related documents. Authorized types include, but are not limited to:

a. **Training/phase manuals.** These documents generally pertain to the tasks, objectives, and goals of the phases of training they encompass. These manuals present techniques and procedures to help students achieve desired proficiency levels.

b. **Textbooks.** These documents are used during the study of a particular subject or subjects in the academic (as opposed to the flying) environment. They are known variously as academic, instructional, reference, or programmed texts.

c. **Guides and workbooks.** These documents are learning aids that provide information to support other instructional methods or exercises on selected topics. Examples are: academic, study, briefing, mission guides, and workbooks supporting slide-tape or lecture presentations.

**2-2. OPRs and OPDRs:** The OPR for syllabus-related documents is the unit tasked

to implement the associated syllabus. The OPDR is the office within the OPR unit that actually develops the syllabus.

**2-3. Format:** The cover and contents of syllabus-related documents will be designed and organized in a format consistent with the applicable course of instruction and the purpose/type of the particular document.

**2-4. Administrative Practice:** Although syllabus-related documents are not designated as specialized publications, they will be administered in much the same way. The OPR is responsible for developing documents deemed necessary and for ensuring that the documents are appropriately coordinated. These documents do not require approval above the unit level.

a. **Review and changes.** All documents will be reviewed for adequacy at least once every 2 years. Changes may originate with the OPR, by suggestions of users, or by direction from higher headquarters. Changes will be coordinated and then effected using unit standard publication change procedures.

b. **Currency.** Users are responsible to maintain currency of their syllabus-related documents. Revisions or changes will automatically be sent to those agencies on the distribution list(s). All users may validate the currency of documents by contacting the OPR.

**Chapter 3****CLASSIFIED PUBLICATIONS AND DOCUMENTS**

**3-1. Procedures:** Classification, marking, storage, transmission, receipting, and accountability procedures of AFR 205-1, TAC supplement 1, are applicable to publications and documents developed, reproduced, and issued under the authority of this regulation.

**3-2. Issuance:** Classified publications and documents issued to students are organizational property, not the property of the student. Students requiring such material upon course completion will request the school forward it to their assigned unit. Foreign students must comply with AFR 200-9, TAC supplement 1, and AFR 12-30 to determine releasability.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

EMMETT H. WALKER, Jr., Lieutenant General, USA  
Chief, National Guard Bureau

OFFICIAL

HAROLD R. DENMAN, Colonel, USAF  
Executive, National Guard Bureau

## SYLLABUS FORMAT AND CONTENTS

**A1-1. General Organization.** Due to the large number of ANGR syllabi in use, it is necessary that a standardized format be used to easily compare certain features of the courses. The following general organization is mandatory. Addendums, additional chapters, or sections are authorized if necessary to accommodate the requirement of particular courses.

<u>Chapter/Section</u>	<u>Page</u>
Cover/Logo	N/A
Letter of Introduction	(i)*
Summary of Changes	ii
Table of Contents	iii
Distribution Listing	As required
Chapter 1--Course Accounting	1-1
Chapter 2--Course Management	2-1
Chapter 3--Academic Training	3-1
Chapter 4--Device Training	4-1
Chapter 5--Flying Training	5-1
Chapter 6, etc.--(as required)	6-1, etc.
Attachments--(as required)	A1-1, etc.

\*Use page and paragraph numbering system similar to standard publications; see AFR 5-1. Expanded guidance on the above major elements follows.

**A1-2. Cover/Logo.** This page readily identifies the document by command, course type(s)/numbers, and weapon system involved. A distinctive cover, similar to the figure A1-1 is required. The inside of the cover should be blank.

**A1-3. Letter of Introduction.** This is the first of several administrative pages that are numbered sequential with small Roman numerals. It establishes the authenticity of the publication and reflects the office(s) of responsibility. This is page i (i not shown); see sample, figure A1-2.

**A1-4. Summary of Changes, page ii.** Purpose and content is the same as for standard publications. See AFR 5-1.

**A1-5. Table of Contents, page iii, etc.** Use general organization example as a guide. Add sections/paragraph titles as needed to direct readers to pertinent material.

**A1-6. Distribution Listing, page iv, etc.** Use "D" distribution. See attachment 2.

**A1-7. Course Accounting, Chapter 1, page 1-1, etc.** Start all chapters on right-hand pages. This chapter is used for rapid reference to the dimensions of the course(s) prescribed by the syllabus. mandatory sections are:

a. Course description(s). Include separate paragraphs on course title(s)/number(s); prerequisites; purpose of course(s) and status of graduates; locations(s) of training; duration (training days, ground, flying, other, total); and total flying sorties/hours, aircrew training device hours, academic hours. See format, figure A1-3.

b. Flying Inventory(s). Use a matrix of chart(s) to show student sorties and hours, UE support sorties and hours, and other support sorties per student. Show totals by phases or module and grand totals for the course. Also, for cost accounting, show the student sortie requirement (SSR). SSR is the total number of sorties

required for a student to complete the syllabus. It includes student sorties, direct support sorties, and refly rate sorties. (Refly rates are obtained from historical data maintained by the syllabi OPR.) See sample, figure A1-4. Separate phase/module summaries and additional data are optional.

c. Aircrew Training Device Inventory(s). Operational Flight Trainer (OFT-Simulator). Cockpit Familiarization Trainer (CFT). Stores Management System Trainers (SMS). Part-time Task Trainers (PTT). Egress Trainer (ET). List hours by major units or subjects of instruction and total. Include required self-paced modules and audiovisual programs. In a separate list show hours of required self-paced audiovisual programming by media (carrel slide-tape, CFT slide-tape, video-tape, etc.) and total.

d. Weapons Inventory(s). Use a matrix or chart to show munition and range requirements. List student range sorties and support sorties per student showing range type (and if manned or unmanned). Show student/support munitions per student by type, per sortie, and totals. See sample figure A1-5.

**A1-8. Course Management, Chapter 2.** There are three mandatory sections in this chapter.

a. Course training standards. ANG's formal flying training performance evaluation system and policy are contained in ANGR 50-31 (to be published). Academic evaluation policy is contained in TACR 50-10 or local directives. The purpose of this section is to implement that system and policy as it pertains to the purpose of the individual course(s) of a particular syllabus. Training standards are defined as the minimum performance required to progress through and/or graduate from the course. Syllabus developers should present this information in the most convenient way that is compatible with course design and the chosen instructional/progression strategy. As a minimum, the end-of-course standard for flying tasks will be identified in terms of the proficiency levels described in ANGR 50-31 (to be published). Reference to additional criteria is permissible if it is explained and provided or referenced. Academic course training standards must also be identified here or through reference to another source or part of the syllabus.

b. General instructions. This section describes the general guidelines used in managing the overall course.

(1) The following special instructions will be included verbatim in all ANG formal flying training syllabi.

(a) "Approval authority: NGB/XO is the approval authority for this syllabus."

(b) "Graduation Requirement: Graduation from this course requires the effective completion of training prescribed by the syllabus. If any syllabus requirements are not completed, it will be noted on TAC Form 89 IAW ANGR 50-31."

(c) "Commander's Authority: The unit commander is responsible for conducting the training specified under the authority/direction of this syllabus. Unit commanders/DOs have waiver authority and may authorize deviations in training to meet special weather and peculiar local conditions consistent with good training management, student progress, and student experience level."

(2) Additional instructions dealing with the following areas will also be included (as applicable).

- (a) Description of training strategy.
- (b) Course mechanics instructions.
- (c) Appropriate safety policies.
- (d) Explanations of unique syllabus features or terminology.
- (e) Extra ("X") Sortie policy/limits.
- (f) Progress checks.
- (g) Corrective action options.
- (h) Elimination procedures.

c. Course Flow. This sections shows recommended and/or required order of training, sequencing, time phasing, and prerequisites of phases, blocks, modules, sorties, sessions, lessons, etc. Course maps and management flow charts supported by appropriate descriptive commentary and symbology keys will be used to present this information (see examples, figures A1-9 and A1-10). Standard course map symbols are shown in figure A1-9. If standard symbols are insufficient, symbols unique to a particular weapon system may be used.

**A1-9. Type Training, Chapters 3,4,5.** The purpose of these chapters is to provide synopses of academic, device, and flying training. The chapters should contain special instructions, if needed, to give further guidance strategy, limitations, ROE, etc., not contained in other parts of the syllabus. Use sections/subsections to provide general descriptions of each individual lesson, session, or sortie, by phase, block, or module of instruction. These descriptions should be in a logical sequence and be formatted similarly in all three chapters. See examples, figures A1-11,12,13. Each lesson, session, and sortie description should show an alphanumeric identifier and the nominal time to complete. The following additional information is required by type of training. (Note: Other chapters with additional syllabus information may be included if appropriate.)

a. Chapter 3, Academic. Facility requirement (classroom, learning center, etc.). Instructional media (workbook, lecture, seminar, etc.). Unique instructor requirements. Brief title, if necessary. Succinct narrative of content.

b. Chapter 4, Device (Simulator, CPT, etc.). Media, if applicable (i.e., tape/slide). Instructor/student ratio. Brief title and succinct narrative of contents or "mission description" and narrative, or "mission objectives" statement, and "mission tasks" listing.

c. Chapter 5, Flying. Aircraft requirement by number and models; crew requirement by type per aircraft. Configuration requirement. Show stores/munitions by quantity/type. Configuration codes are permissible. If used, include a key chart or page. "Mission objectives" statement, and "mission tasks" listing.

**A1-10. Additional Chapters, Attachments, Addendums.** In all syllabi, chapters 1 through 5 are reserved for the material described above. Subsequent chapters, attachments, or addendums are authorized, if needed, and may be titled as appropriate.

**A1-11. Multicourse/Track Syllabi.** Syllabi may contain more than one course or track. In these cases the syllabi OPDR is responsible for designing a presentation scheme that allows ready identification of the information required by this attachment for each course or track.

**ANG SYLLABUS  
COURSE A7000CN**

**ANG CONVERSION  
COURSE  
A-7**



**JULY 1984  
NATIONAL GUARD BUREAU**

Figure A1-1. Syllabus Cover/Logo Example

**DEPARTMENT OF THE AIR FORCE**  
**Headquarters US Air Force**  
**Washington, DC 20330**

**ANG SYLLABUS**  
**Course No. F4000AD**

**ANG OPERATIONAL TRAINING COURSE**

**F-4**

**JUNE 1983**

**INTRODUCTION**

This syllabus reflects the general nature of the training required to enable graduates to achieve the standards of proficiency established in this course. It prescribes the overall plan of instruction and the approximate time required for the average student to attain the required proficiency in individual subjects. The level of instruction and time devoted to the individual elements, events, and subjects of phases should be adjusted, as required, to meet the needs of the individual students.

Instructions governing publication and revision of ANG syllabi are contained in ANGR 8-1.

OFFICIAL

**JOHN B. CONAWAY, Major General, USAF**  
**Director, ANG**

**GENE L. JUVE, Colonel, USAF**  
**Chief, Plans and Operations Division**

**Supersedes ANG Syllabus, Course F4000AD, Sep 78**  
**OPR: 184TFG/DO OPDR: 184TFG/DOT**  
**DISTRIBUTION: X**

ANG SYLLABUS XXXXXX

1-1

## Chapter 1

## Course Accounting

## Section A - Course Description

- 1-1. Course title(s) and number(s) (as obtained from OPR).
- 1-2. Course(s) entry prerequisites. (Paragraph(s) stating entry requirements, as coordinated with OPR.)
- 1-3. Purpose(s) and graduate status. (Paragraph(s) stating general course/track structure, goals, AFSC awarded, and relationship of training received to weapons system upgrade requirements.)
- 1-4. Location (List units and bases tasked to conduct the course(s).)
- 1-5. Duration. (List total training days, ground training days, flying training days, and "other" training days such as TDY for special simulator training.)
- 1-6. Amount.
  - A. Academic hours. (Total including scheduled "self-paced instruction" exclusive of that conducted in aircrew training devices.)
  - B. Aircrew training device hours. (Total in PTT, CFT, CPT, OFT, MS, WST, special devices. Do not include carrel or similar training media.)
  - C. Flying sorties/hours. (Total student flying sorties and hours.)
  - D. Mission support sorties/hours.

Figure A1-3. Course Description Format  
Sample

## Course RF4000BG, Aug 83

### CHAPTER 1

#### COURSE ACCOUNTING

#### SECTION A—COURSE DESCRIPTION

1-1. Course Title and Number: ANG Operational Training Course, RF4000BG.

1-2. Course Prerequisites: IAW AFR 50-5, Volume II, Chapter 10.

1-3. Purpose and Graduation Status: (FOLLOWING PARAGRAPHS - EXAMPLE ONLY)

a. Purpose: The primary purpose of this syllabus is to train aircrews in the following basic reconnaissance skills: normal operations (takeoff, aircraft handling, landing), emergency procedures, instruments, formation (basic wing and lead), reconnaissance mission planning and route selection, low level navigation (visual and radar), target acquisition (day visual and night radar), air-to-air refueling, AHC, ACM, RWR/EW/penetration aids, visual intelligence gathering, and tactical formation. Graduates will be capable of performing these skills to course standards. Aircrews are qualified to perform low level navigation at 500 ft AGL for day missions and 2,000 ft AGL for night missions. Training beyond course standards is the responsibility of the gaining unit.

b. Graduate Status: Upon satisfactory completion of this course, pilots and WSOs will be awarded AFSCs of 1325F and 1555D respectively. Prior to assuming mission ready status, the following must be accomplished:

- (1) Completion of upgrade training requirements IAW TACM 51-50.
- (2) Theater/local area orientation.
- (3) Certification by unit commander.

1-4. Location: 124TRG/RTU, Boise, ID 83707.

1-5. Duration: 107 total training days, approximately 154 calendar days.

- a. Seventeen ground training days.
- b. Ninety flying training days.

1-6. Amount:

a. Academic Hours.

Pilot	187
WSO	218

b. Aircrew Training Device Hours.

Pilot	50.0
WSO	48.0

c. Flying Sorties/Hours.

Pilot	50/80.5
WSO	36/57.9

d. Mission Support Sorties/Hours.

Pilot	34/40.5
WSO	30/33.2

Figure A1-4. Course Description Sample

## Section B - Flying Inventory

## 1-7. Course F1600TXA

STUDENT		DIRECT UE SUPPORT		OTHER SUPPORT
SORTIES	HRS	SORTIES	HRS	SORTIES
CV-1	1.3			(Tanker)
CV-3	2.0			
CV-5	1.4	1.0	1.4	
3-CV	4.7	1.0	1.4	
BFM-1	1.0			.5 Tot
BFM-2	1.0	1.0	1.0	
BFM-3	1.0	.5	.5	
3-BFM	3.0	1.5	1.5	
DART-1	1.2	.5	.6	.5 Tow
DART-2	1.2	.33	.4	
2-DART	2.4	.83	1.0	
SA-2	1.4	.33	.47	
SA-3	1.4	.5	.7	(Tanker)
SA-5	2.0	1.0	2.0	
SA-6	1.4			
4-SA	6.2	1.83	3.17	
12-Total	16.3	5.16	7.07	
SSR-18.9 (12.0 + 5.16 + 1.72) (SSR=student sorties, plus direct support, plus reflly rate)				

Figure A1-5. Flying Inventory Sample

## Section C - Aircrew Training Device Inventory

## 1-9. Aircrew Training Device Inventory.

	SORTIES/HOURS	
	<u>Pilot</u>	<u>WSO</u>
Simulator		
Basic Procedures/Emergency Procedures	7/21.0	7/21.0
Radar/Reconnaissance/EW Procedures	4/12.0	4/12.0
Checks	2/6.0	2/6.0
Total Simulators	13/39.0	13/39
Cockpit Training (CPT)	7/7	5/5
Egress Procedures Trainer (EPT)	4/4	4/4
Total	24/50.0	22/48

## Section D - Academic Inventory

## 1-10. Subjects

	<u>Pilot</u>	<u>WSO</u>
Course Management (CM)	7	7
Aircraft General (AG)	5	3
Aircraft Systems (AS)	27	28
Emergency Procedures (EP)	14	14
Instrument Procedures (IP)	11	18
Life support (LS)	13	13
Mission Planning	9	19
Radar (RA)	12	16
Sensors (SE)	14	15
Enhanced Crew Coordination (CC)	6	16
Essential Elements of Info (EEI)	6	6
Elec Warfare/Intell/Tactics (EIT)	20	20
Phase Briefings (PT)	20	20
Examinations - TRTS (EX)	15	15
Stan/Eval	8	8
TOTAL	187	218

## 1-11. Instructional Media/Method

	<u>Pilot</u>	<u>WSO</u>
Self-Study	8	14
Tape/Slide	0	0
Lecture	133	147
Seminar	6	8
Examinations	23	23
Demonstrations/Performance	17	26
TOTAL	187	218

Figure A1-6. Academic Inventory Sample

## Section E - Weapons Inventory

1-13. Course A1000I CIP Track. (Hypothetical data)

STUDENT SORTIES	WEAPON TYPES		(STUDENT/INSTRUCTOR)			RANGE SORTIES* PER STUDENT
	30MM	BDU-33	MK-106	MK-82	TGM	
SA-2 SA-5	100/33 200/100	12/4	6/3		1/.5	M-CONV/ 1.33 (1) U-TAC/ 1.5 (2)
DART-1 ACM-2	100/100					U-A/A/ 2.5 (3) ACRM/ 4.0 (4)
SAT-3	500/500			6/6	2/2	U-TAC/ 4.0 (5)
5-Total	900/733	12/4	6/3	6/6	3/2.5	13.33

\*Show manned or unmanned and range type, and total range sorties per student by syllabus design. This includes TGTs, TOWs, FACs, etc. (Numbers) reflect hypothetical line-ups that produce the example figure.

- (1) IP, P, P, P line up
- (2) IP, P, P line up
- (3) IP, P, IP, P plus Tow line up
- (4) IP, P plus two Tgts line up
- (5) IP, P plus FAC plus helicopter line up

Figure A1-7. Weapon Inventory Sample

Course RF4000BG, Aug 83

## CHAPTER 2

### COURSE MANAGEMENT

#### SECTION A. COURSE TRAINING STANDARDS AND GRADING CRITERIA

2-1. Course Training Standards (CTS). The course training standards reflect the overall course objectives. These standards enable instructors and supervisors to identify by job element those areas requiring instructional emphasis. The standards also describe to the gaining unit the ability of the graduate to perform job elements. The level of proficiency at which the graduate should be able to perform the job elements is indicated by the following training standards.

<u>STANDARDS</u>	<u>DESCRIPTION OF PERFORMANCE</u>
1	Performs safely but has limited proficiency. Makes errors of commission or omission.
2	Performs in an essentially correct manner. Recognizes and corrects errors.
3	Performs correctly, efficiently, skillfully, and without hesitation.

2-2. Grading Criteria. The following grading criteria are designed to relate directly to Course Training Standards. Training standards specified for each job element are required prior to entry into the next phase of training. These grades will be used on TAC Form 206 Grade Sheets.

<u>GRADE</u>	<u>EXPLANATION OF GRADE</u>
Unknown	Performance not observed or the element was not performed.
Dangerous	Performance was unsafe. One element on an AF Form 1363 marked "Dangerous" will result in an overall grade of zero (failure).
0	Performance indicates a lack of ability or knowledge.
1	Performance is safe, but indicates limited proficiency. Makes errors or omission or commission.
2	Performance is essentially correct. Recognizes and corrects errors.
3	Performance is correct, efficient, skillful, and without hesitation.
4	Performance reflects an unusually high degree of ability.

Figure A1-8. Chapter 2 Format Sample

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	COURSE STANDARD	
	PILOT	WSO
Reconnaissance (DR, SN, NR)		
Mission Planning	2	2
Visual Navigation (500' AGL/420 KGS Min)	2	2
Radar Navigation (High & Low 420 KGS Min)	2*	2
Terrain Following/CS/Time Sharing		
Operations (2000' AGL)	2	2
Target Acquisition		
Day Optical Sensors	2	2
Night IR Sensors	2*	2
EEI	2	2
Aircraft Handling Characteristics (AHC)	2	2*
Air Combat Maneuvering (ACM)	2	1
Electronic Warfare/Tactics		
RWR/ECM Systems Test	2	2
RWR/ECM/Tactics Employment	1	1

2-4. Written Examinations. Minimum passing score on all academic examinations is 85%.

SECTION-B. GENERAL INSTRUCTIONS. (FOLLOWING PARAGRAPHS - EXAMPLE ONLY)

2-5. The Group Commander is responsible for conducting the training specified under the authority/direction of this syllabus.

2-6. Completion of the academic, device and flying training should progress according to the course map to ensure required media interface. The overall course progression can vary as long as program managers ensure that prerequisites for each block of instruction on the course map are met prior to accomplishing that block. Instructors will ensure that prerequisites are complete prior to simulator and aircraft sorties.

2-7. Within the limits of para 2-6 above, squadron commanders may authorize deviations in the conduct of training and aircraft loading to meet special weather and peculiar local conditions consistent with flying safety practices, student progress, and student experience level.

2-8. Squadron Commanders may substitute an Instructor Pilot (IP) for an Instructor WSO (IW) if necessary to meet scheduling requirement.

2-9. This syllabus is designed on the basis that pilots and WSOs will be formed into crews and crew integrity will be maintained on designated sorties.

2-10. Additional instructional sorties are limited to three per phase with a maximum of six for the course. Sorties beyond the phase limit must be approved by the GRP/DO (Info: NGB/XO). Sorties beyond the course limit must be approved by NGB/XO. For the purposes of course accounting, flight checks and corrective action rides generated because of flight checks are not considered additional instructional sorties. Phases are: Transition (TP and TW), Day Reconnaissance (DR), Simulated Night Reconnaissance (SN), Night Reconnaissance (NR), Air-to-Air Refueling (AR), Aircraft Handling Characteristics (AHC), and Air Combat Maneuvering (ACM).

2-11. Required certifications must be annotated on the appropriate TAC Form 206. Additionally, all certifications will be maintained on an AF Form 1381, USAF Certification of Qualification.

2-12. Those aircrews failing to achieve the required proficiency levels of this syllabus will be processed IAW AFR 35-13.

2-13. Graduation Requirements: Completion of all training as specified in the Course Map.

## Section C - Course Flow

2-21. Course map. (Explain the purpose of course maps -- generally to show how each module of instruction relates to the other modules and to the course as a whole; they identify prerequisite modules and may offer alternative paths for training flexibility.)

- A. (Include instructions on how to read, interpret symbols and abbreviations, and how to use in respect to other management tools.)

## Section C - Course Flow

### COURSE MAP

2-21. The following course map shows the prerequisites for each flying sortie in the syllabus. The relationships between blocks of instruction are indicated by an arrow. Before a block of instruction can be accomplished by a student, he must have successfully completed all prerequisites leading into that block of instruction.

#### A. SPECIAL INSTRUCTIONS: (FOLLOWING PARAGRAPHS - EXAMPLE ONLY)

- (1.) The course map is read from the bottom to the top.
- (2.) Prerequisites for each block of instruction are represented by solid arrows leading into that block. Dashed blocks and/or lines indicate a prerequisite which should have been completed in another location on the course map.
- (3.) The purpose of a course map is to provide training managers with the flexibility needed to accomplish the training required in the optimum manner. The management flow chart reflects the optimum pathway through the course map.
- (4.) The following symbols are used in the course map and represent the blocks of instruction as indicated:

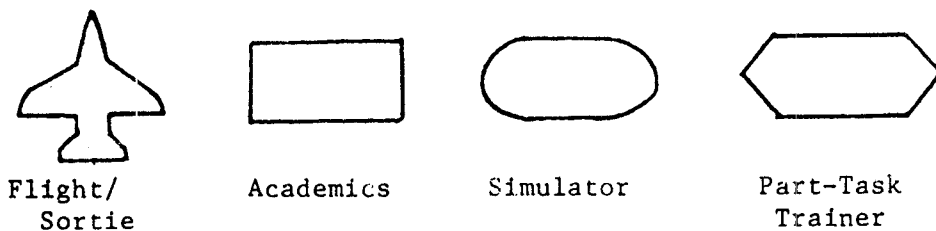


Figure A1-9. Course Map Sample



2-23. Management flow chart. (Explain the purpose of these type charts -- generally to assist in scheduling activities throughout the course by depicting or representing the optimum path through a course map.)

A. (Include appropriate instructions and data assumptions used on constructing the charts.)

B. Management flow chart for course ~~XXXXX~~ (Example)

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TRAINING DAY		69	70	71	72	73	74	75	76	77	78	79	80	81
FLIGHT	MISSION SYMBOL		NR-2	AR-6		NR-3		NR-4		NR-5				NR-6
	RATIO		1:1	0:1		0:1		0:1		0:1				0:1
	TIME		1.7	2.3		1.7		1.7		1.7				1.7
SIMULATOR						S-12							S-13	
ACADEMICS		EET-3 EET-4			AS-M EX 9			EIT-4 EET-4					EIT-4 EET-5	

TRAINING DAY		82	83	84	85	86	87	88	89	90	91	92	93	94
FLIGHT	MISSION SYMBOL		ANG-3	ANG-4		ANG-5	ADM-1		ADM-2	ADM-3		ADM-4	ADM-5	ADM-6
	RATIO		1:1	1:1		1:1	1:1		1:1	1:1		1:1	1:1	1:1
	TIME		1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
SIMULATOR														
ACADEMICS		EIT-6 ET-7		EIT-4 EET-6				SE-8 CC-6			AG 3,4			

TRAINING DAY		95	96	97	98	99	100	101	102	103	104	105	106	107
FLIGHT	MISSION SYMBOL		DR-9	TP-14	DR-10		DR-11		DR-12		DR-13		C-3	
	RATIO		0:1	1:1	0:1		0:1		1:1		1:1		1:1	
	TIME		1.7	1.7	1.7		1.7		1.7		1.7		1.7	
SIMULATOR														
ACADEMICS		EX-12									EX-11	EIT-5		

Figure A1-10. Management Flow Chart Sample

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3-1

## CHAPTER 3

## ACADEMIC TRAINING

## SECTION A - SPECIAL INSTRUCTIONS (FOLLOWING PARAGRAPHS - EXAMPLE ONLY)

3-1. Content. This syllabus outlines the material to be covered in each academic block of instruction. Specific objectives are published separately.

3-2. Sequence. The academic block of instruction sequencing will progress in accordance with the relationship depicted in the Course Map. This schedule ensures correct interface of academic, simulator, and flying training.

3-3. Examinations. Academic instructors will prepare student examinations as indicated in this syllabus. Examinations will be reviewed and approved by the 405 TTS/ES before implementation in the training program.

3-4. Standards. Minimum academic passing grade for all aircrews is 85%. During the critique, examinations will be individually corrected to 100%. A student who fails an examination will be provided the necessary additional instructions and will be administered a parallel examination.

3-5. Course Critique. Critiques for each academic block of instruction will be forwarded for review to the 405 TTS/ES. All suggestions for course modification will be reviewed by the 405 TTS/TD and, if approved, will be integrated into the academic syllabus.

## SECTION B - F-15 SURFACE ATTACK (ASA)

3-6. Content. Surface Attack instruction includes the following:

ASA-1  
Classroom

Lecture  
Time: 1.0 Hr

Surface Attack Introduction

1. Course Content
2. F-15 Surface Attack Ordnance
3. F-15 Surface Attack Modes of Delivery
4. The interface and general functions of the F-15 Surface Attack avionics equipment.

ASA-2  
Classroom

Lecture  
Time: 6.0 Hrs

Surface Attack Modes

1. Armament Control Panel (ACP) Operations
2. Auto Mode Delivery
3. Continuously Displayed Impact Point (CDIP) Mode Delivery
4. Direct Mode Delivery
5. Manual Mode Delivery
6. Strafe
7. Malfunctions: Recognition and Correction

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## CHAPTER 4

### DEVICE TRAINING

#### SECTION A - SIMULATOR TRAINING

##### 4-1. Special Instructions (FOLLOWING PARAGRAPHS - EXAMPLE ONLY)

a. Students should have the same instructors on S-1, S-2, and S-3 when scheduling permits.

b. Crew scheduling will allow a minimum of 30 minutes for briefing and 30 minutes for debriefing. Simulator sortie times shown include one hour of briefing/debriefing time.

c. To the maximum extent possible simulator missions will be conducted like actual flights, incorporating normal flight directives, checklists, communications, and crew coordination procedures.

d. Instructors will brief students on the mission scenario, simulator limitations pertaining to the mission, mission objectives, and procedures and techniques necessary to accomplish the objectives.

e. Objectives which cannot be accomplished in the simulator due to its limitations will be covered in briefing or debriefing.

f. Crewmembers will wear harnesses on S-2 and S-3.

g. When practicing lost wingman procedures, the student will simulate formation flight and execute the proper maneuver from a prebriefed formation position.

h. The WSO will monitor instruments for unusual attitudes on all missions and will practice air-to-surface communications as much as possible.

##### 4-2. Simulator Summary.

SIMULATOR MISSION	CREW	TITLE	HOURS
S-1	P & W/IP & IW	Cockpit Familiarization and Instruments	3.0
S-2	P & W/IP & IW	Instruments and Emergency Procedures	3.0
S-3	P & W/IP & IW	Instruments and Emergency Procedures	3.0
S-4	P & W/IW	DR and Emergency Procedures	3.0
S-5	P & W/IP or IW	DR and Emergency Procedures	3.0
S-6	P & W/IP or IW	Emergency Procedures	3.0

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SIMULATOR MISSION	CREW	TITLE	HOURS
S-7	P & W/IP or IV	Radar Nav and Emergency Procedures (Use TW-4 Frag)	3.0
S-8	P & W/IP or IV	Practice Emergency Procedures Check	3.0
S-9	P & W/FE	Emergency Procedures Check	3.0
S-10	P & W/IW or II	RWR/Chaff Employment, Radar Navigation, Emergency Procedures	3.0
S-11	P & W/IW or II	Emergency Procedures & Mission Tactics	3.0
S-12	P & W/IP or IV	Practice Emergency Procedures Check and Radar/Tactics	3.0
S-13	P & W/FE	Emergency Procedures Check	3.0

## 4-3. Simulator Mission Descriptions.

S-1 P, W/IP, IW

1:1 Ratio  
3.0 Hours

Mission Objectives: Practice normal and instrument procedures.

Mission Tasks:

1. Start and Ground Procedures
2. Takeoff
3. After Takeoff/Climb Procedures
4. Level off Procedures
5. Unusual Attitude Recovery
6. Descent Procedures
7. TACAN Penetration and Approach
8. Missed Approach Procedures
9. Landing and Shutdown Procedures

S-2 P, W/IP, IW

1:1 Ratio  
3.0 Hours

Mission Objectives: Practice normal, instrument, and emergency procedures.

Mission Tasks:

1. Start and Ground Procedures - Fire on Start
2. Canopy Malfunction
3. Takeoff
  - a. Abort for Fire/Overheat
  - b. Engine Fire (Takeoff Continued)
4. ADI Failure
5. Unusual Attitude and High Speed Dive Recovery
6. INS Failure and Inflight Alignment
7. Smoke in Cockpit

## Chapter 5

### Flying Training

#### Section A - Special Instructions

- 4-4. Special instructions pertinent to all flying training, or to each phase will be included.

#### Section B - Mission Descriptions

- 4-2. The objectives of each phase will be clearly stated. In addition each mission will be described including mission number, crew ratio, hours required, aircraft configuration, mission objectives and mission tasks. Example:

AR-2 2, 3, or 4 Ship 2.3 Hrs  
IP/WSO 2/3 Tk

Mission Objectives: IP demonstrate day air-to-air refueling and multi-ship formation flight. IP certify WSO for crew AAR

Mission Tasks: 1. Formation takeoff, cruise, and recovery  
2. Air-to-air refueling rendezvous and off-load demonstration  
3. (Optional) Low level tactical formation

AR-3 2, 3, or 4 Ship 2.3 Hrs  
P, IP 2/3 Tk

Mission Objectives: Practice day air-to-air refueling and multi-ship formation flight. IP certify pilot for day refueling.

Mission Tasks: 1. Formation takeoff, cruise, and recovery  
2. Air-to-air refueling  
3. (Optional) Low level tactical formation

5-15

Figure A1-13. Chapter 5 Format Sample

## ANG Syllabus XXXX August 1984

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ANG F-4 FWS SYLLABUS REVISION REQUEST

BACKGROUND

The syllabus validation was completed on 18 June 1984 when four members of the 184TFG graduated from the 12-week course. All phases of the school were evaluated by a broad spectrum of personnel which included the instructors, graduates, USAF FWS Instructors, USAF TAC Aggressors, ANG F-4 units, 184TFG Instructors, and members of the NATO Tactical Leadership Programme. A continuing review was conducted proceeding, during, and following the validation. Inputs were received from these various sources which resulted in minor alterations, but the overwhelming consensus was that the syllabus was sound.

PROPOSED CHANGES

A/A Syllabus Changes

- \* Academics
  - Inprocessing has been extended by 1.0 hours.
  - Intercept/Local area brief extended by .5 hours.
  - LAAT In the A/A phase decreased by 2.0 hours.

\* Flying

Original Flights

Planned Changes

Intercepts 1	No Changes
2	No Changes
BFM 1 AHC	No Changes
2 OFF	No Changes
3 OFF	No Changes
4 DEF	No Changes
5 DEF	Pilot Brief Offensive
6 NEUT	WSO Brief Defensive
7 NEUT	IP Brief to Enhance Learning
ACM 1 2v1 OFF	Dissimilar
2 2v1 DEF	Dissimilar
3 2v1v1 DEF	Dissimilar
4 2v2	Dissimilar
SRV 1 1v1v1v1	No Changes
2 1v1v1v1	No Changes
DBFM 1 1v1	No Changes

Original Flights

DACT 1 2v2  
           2 4v6  
           3 2+2v2  
           4 2v2+2  
           5 4v2+UNK

SA-1  
 SA-2  
 SA-3

SA-4  
 SA-5  
 SA-6  
 SA-7  
 SA-8  
 SA-9  
 SA-10  
 SA-11  
 SA-12

LAAT-1  
 LAAT-2  
 LAAT-3  
 LAAT-4

TE-1  
 TE-2  
 TE-3  
 TE-4

IADS-1  
 IADS-2  
 IADS-3  
 IADS-4

Planned Changes

IP Brief  
 2v2 Stud Brief  
 No Changes  
 4v2+UNK (Maximum 4)  
 4v6  
 Add Dive Toss to 2 deliveries  
 Mix Dive Toss and manual deliveries  
 Incorporate visual level and low angle deliveries  
 Curvilinear sortie vs pop-ups  
 Pop ups  
 Fly locally instead of out and back  
 No Significant Change  
 No Significant Change  
 No Significant Change  
 No Significant Change  
 No Significant Change  
 Delete composite force

No Change  
 No Change  
 No Change  
 No Change

No Significant Change  
 No Significant Change  
 No Significant Change  
 No Significant Change

TE-5 Structure remaining  
 TE-6 rides to individuals  
 TE-7 Checkered Flag emphasis  
 TE-8 No Significant Change

SHORTFALLS

- WSO did not brief enough during BFM.
- WSO was not given the opportunity to lead, set up, and direct the flight.
- Intercept capability was degraded in DACT and Advanced Threat.
- Two vs Two capability was not as good as expected at the completion of the course.

DISCUSSION

- WSO will brief and lead a BFM sortie. He will brief a larger portion of the remaining Air-to-Air rides.
- An intercept will be performed on all ACM sorties to improve tactical intercept capabilities.

- An additional 2v2 sortie will be flown and the IP will brief two 2v2 sorties before the students brief one.
- The 2v2+UNK sortie is deleted in order to make room for the additional 2v2. No net increase in total numbers of sorties are planned.
- Some sorties were rearranged in order to enhance the building block approach.
- Minor changes have been made in several of the ride profiles, i.e., GCI, Full, Broadcast, VID, BVR, Positive ID, etc.

#### **OTHER CONCERNS**

- Funding of adversary support for DACT is a problem. A separate proposal is being prepared on this subject.
- We must address whether funding for syllabus directed deployments will be included in unit or ANGSC/DOX forecasts.

#### **SUMMARY**

The changes included in this request will significantly improve the syllabus. The first class is scheduled to begin 15 August 1984. Request approval as soon as possible to avoid last minute changes.